

(No Model.)

2 Sheets—Sheet 1.

H. G. LEISENRING.
SURGICAL CHAIR.

No. 513,584.

Patented Jan. 30, 1894.

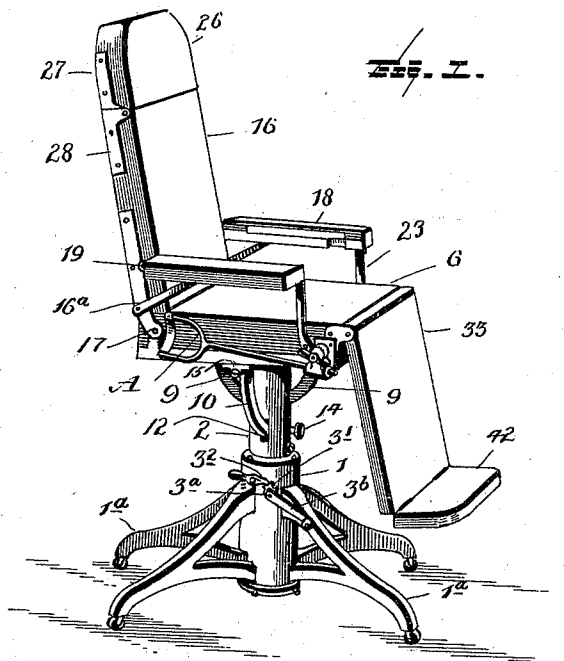


Fig. 2.

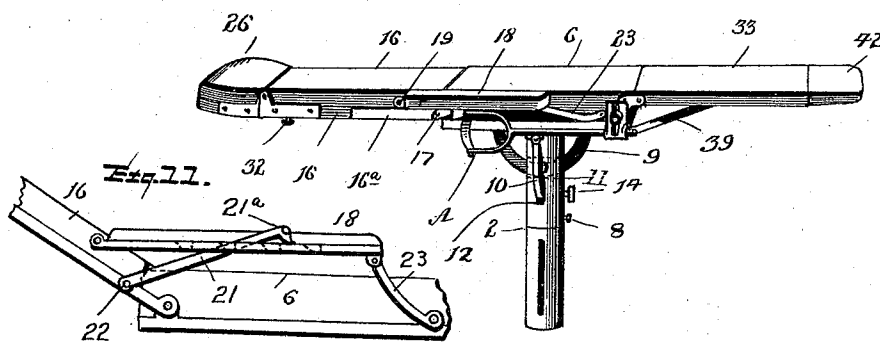
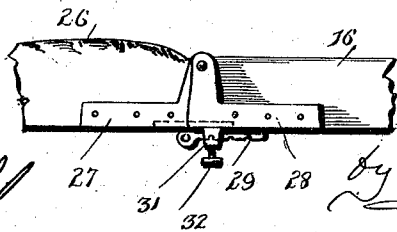


Fig. 4.



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2 Sheets—Sheet 2.

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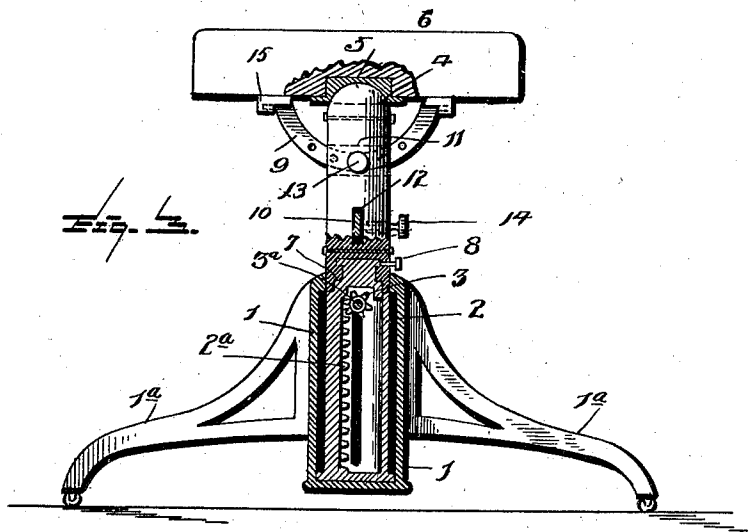


Fig. 12.

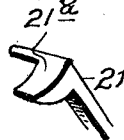


Fig. 9.

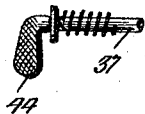


Fig. 15.

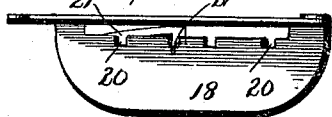
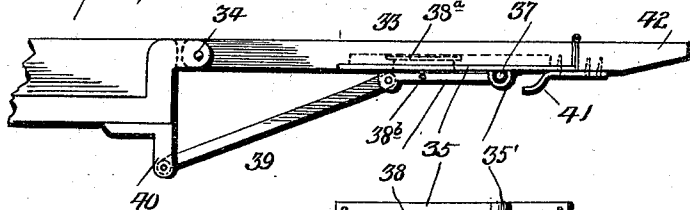


Fig. 10.

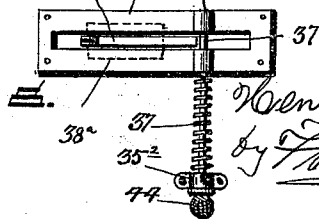


Fig. 7.



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UNITED STATES PATENT OFFICE.

HENRY G. LEISENRING, OF WAYNE, NEBRASKA.

SURGICAL CHAIR.

SPECIFICATION forming part of Letters Patent No. 513,584, dated January 30, 1894.

Application filed September 4, 1893. Serial No. 484,767. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. LEISENRING, a citizen of the United States, residing at Wayne, in the county of Wayne and State of Nebraska, have invented certain new and useful Improvements in Surgical Chairs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in chairs which are especially constructed for use by surgeons to enable them to adapt the chair to the required position of the person of the patient being operated upon.

The invention has for its object to improve upon the construction of that class of surgical chairs which are adapted to be tilted and adjusted in various positions.

The improvement consists in the novel features and in the peculiar construction and combination of parts which will be hereinafter more fully described and claimed and which are shown in the accompanying drawings, in which—

Figure 1, is a perspective view of a convertible chair embodying my invention, showing the chair in an upright or sitting position. Fig. 2, is a perspective view of the chair adjusted to a horizontal position, for use as an operating table. Fig. 3, is a detail view showing the cylinder of the base in section and the means for raising and lowering the chair. Fig. 4, is a detail view showing the manner of attaching the back and leg sections to the seat. Fig. 5, is a top plan view of the arm, showing the relative position of the adjustable brace. Fig. 6, is a detailed view showing the means for adjustably connecting the head-rest with the back. Fig. 7, is a detailed view of the leg and foot rest sections, showing the manner of connecting them with the seat. Fig. 8, is a detailed view of the slotted plate and bolt for adjustably connecting the brace with the leg section. Fig. 9, is a detailed view of the outer end of the bolt. Fig. 10, is a detailed view of the stop which is attached to the foot rest to be engaged by the

slide bar. Fig. 11 is a detail view of a portion of the seat, back, arm and headed brace, showing the relative position of the latter when the head is detached from the notched arm plate. Fig. 12 is a detail in perspective of the headed brace.

The base or support is composed of a cylindrical portion 1, and legs 1^a branching therefrom. A plunger or piston 2 is adapted to work in the cylinder 1 and has a rack 2^a which is engaged by a pinion 3 on a shaft 3^a suitably journaled in the base. The outer end of this shaft 3^a is constructed to receive or be provided with a crank 3^b and has a ratchet-wheel 3' to be engaged by the pawl 3² by means of which the piston is held at the required elevation. A standard 4 is attached to the upper end of the piston 2 by a circular tongue or groove joint 7 which will admit of the said standard turning freely, a binding screw 8 being provided to hold the standard 4 in the relative adjusted position. The head of the standard 4 is convex to fit a corresponding concave socket in the plate 5 attached to the under side of the seat. Two semi-circular bars 9 and 10, relatively disposed at right angles to each other, are attached at their ends by pivots or journals to bearing blocks 15 on the under side of the seat and pass through suitable mortises 11 and 12 in the standard 4. These semi-circular bars have a series of openings which are adapted to be engaged by spring-actuated stops to lock them to the standard in the adjusted position. The spring-stop 13 engages with the openings in the bar 9, and the spring stop 14 with the openings in the bar 10. When it is desired to tilt the chair longitudinally, or from an upright to a horizontal position, or an intermediate point, the stop 13 is disengaged from the bar 9 and the adjustment effected, after which the stop is released and springs into the opening in the bar opposite the said stop and secures the chair in the required position.

To tilt the chair laterally the stop 14 is operated in a manner similar to the stop 13. By reason of the pivotal connection of the bars 9 and 10 with the seat the latter can be tilted in the manner aforesaid.

The back 16 is provided with metal plates 16^a by means of which it is pivotally connected with the seat 6 at 17. The arms 18 are

pivotaly connected at their inner ends with the back, at 19, and at their front ends with the seat by means of the bars 23 which have pivotal connection with the arms at 25 and with the seat at 24. The braces 21 extending across the angle formed between the arms and the back, are pivoted to the back at 22 and have adjustable connection with the arms, the latter having slot 20^a and a series of notches 20 into one of which the head 21^a of the braces 21 is seated to hold the parts rigidly in the adjusted position. The head 21^a is rounded on the under side so that the back can be pushed up without raising braces as the head 21^a will slide out until it reaches the next notch, as the back is lifted. The head rest 26 is pivotaly connected with the back by a hinge composed of the parts 27 and 28. A notched brace 29 has pivotal connection with the head rest and passes through keeper 31 on the back. A binding screw 32 passing through said keeper and bearing against the brace 29 holds the latter in the required position. Obviously on loosening the screw 32 the head rest can be adjusted, the position being fixed by tightening up the said screw. The leg section 33 has pivotal connection with the seat at 34 and is held in the required position by brace 39 which is pivotaly connected with a bracket 40 on the seat, and which has adjustable connection with the said leg section by means of a slotted plate 35 on the said leg section. A bar 38 is provided with a flanged head 38^a which works in the slot 36 in the plate 35 and holds the said bar and brace 39 in a fixed relative position. The bar 38 has opening 38^b through which a bolt 37 is adapted to project and lock the said bar and leg section when the latter is lowered part way as in reclining position. A raised portion 35' on the plate 35 receives and supports the active end of the bolt 37, the outer end working through a keeper 35² secured to the leg rest. The bolt is spring actuated and has a handle 44 by means of which it is conveniently operated, and projects in front of the bar 38 when leg rest is elevated, and prevents leg rest from dropping down. The foot rest 42 is hinged to the leg section and has a curved stop 41 attached thereto to extend across the

hinge joint and be engaged by the end of the bar 38 by means of which the foot rest is supported in the required position, when leg rest is lowered. The bar 38 is of such length and the parts so proportioned and disposed that when the bolt 37 projects across the end of the said bar 38, the leg section and foot rest will occupy a horizontal position.

The heel pieces A are of the usual construction and adjustably connected with the seat so as to be readily adjusted to the required position.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

1. In a chair, the combination of a standard having a convex end, transverse mortises at different heights disposed relatively at right angles, a seat provided with a plate having a concavity to receive the convex end of the standard, semi circular bars placed at right angles to each other and passing through the said mortises and having pivotal connection at their ends with said seat, and binding screws passing through the standard and bearing laterally against the said semi circular bars, substantially as shown and for the purpose specified.

2. In a chair, the combination of the seat, the leg portion 33 hinged thereto, the foot rest hinged to the leg section, the slotted plate 35 having the transverse deflected portion 35' the brace 39, the slide bar 38 connected with the brace 39, the bolt 37 sliding in the part 35', and a stop 41 attached to the foot rest and adapted to be engaged by the slide bar 38, substantially as set forth.

3. In a chair, the combination of the seat, the leg section and the foot rest hinged together, a stop on the foot rest, a slide bar on the leg section to engage with the said stop, and a brace connecting the said slide bar with the seat, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY G. LEISENRING.

Witnesses:

J. D. KING,
P. H. KOHL.